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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,272	07/02/2003	Val Kagan	09250.0001	4081

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EXAMINER
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LEUNG, PHILIP H

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/612,272

Applicant(s)

KAGAN, VAL

Examiner

Philip H. Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 18-23 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17, 24 and 26-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5-16 & 5-25-05.
- ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. 50405.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-17, 24 and 26-28 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-48 of copending Application No. 10/884,851. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are directed to an induction heating device and method using a power source providing current pulses with high frequency harmonics to a heater coil and/or an adjustable non sinusoidal pulse signal to a heater coil for adjusting the ratio between inductive and resistive heating of an article. They are only different in wordings and other minor variations within the scope of the invention.

This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 4 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe (JP 2-117088) (cited in the interview and in on the 5/25/05 IDS).

Claim 1 only recites an apparatus comprising: a power source providing current pulses with high frequency harmonics to a heater coil generating a magnetic flux for inductive heating of an article, wherein the harmonics increase the power transferred inductively to the heated article. That is, all that is being claimed is a power source providing current pulses with high frequency harmonics to an induction heater coil. This is clearly shown by at least the prior art shown in Figures 3 and 4 of Watanabe '088. As set forth on page 2 of the translation (paragraphs under the Heading "Prior art" and "Problems to be solved by the invention 640, the power source (A) generates a current pulse as shown in Figure 4 including plural harmonics superimposed on the fundamental sinusoidal source.

5. Claims 1, 3, 4 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe (JP 2-117089) (cited in the interview and in on the 5/25/05 IDS).

Again, claim 1 only recites an apparatus comprising: a power source providing current pulses with high frequency harmonics to a heater coil generating a magnetic flux for inductive heating of an article, wherein the harmonics increase the power transferred inductively to the heated article. That is, all that is being claimed is a power source providing current pulses with

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high frequency harmonics to an induction heater coil. This is clearly shown by at least the prior art shown in Figures 3 and 4 of Watanabe '089. As set forth on page 2 of the translation (paragraphs under the Heading "Prior art" and "Problems to be solved by the invention 640, the power supply (A) generates a current pulse as shown in Figure 4 including many frequencies (harmonics) superimposed on the fundamental sinusoidal source. Furthermore, the claimed invention is also met by Figures 1 and 2 as it shows a power source providing current with harmonics at power supply 13 and transformer 12 although they are separated by tertiary coil 20 but both the fundamental and harmonics are delivered to load coils 18 and 23 respectively, when a load to be heated is located adjacent these two coils, the load would be heated with power from both the fundamental and harmonics.

6. Claims 1, 3, 4 and 7 are further rejected under 35 U.S.C. 102(b) as being anticipated by Terry (GB 752,268) (cited by the applicant).

Terry clearly teaches the use of a power source generating a current with harmonics to an induction heating coil to increase efficiency (see page 1, lines 8-78).

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 1-17, 24 and 26-28 are further rejected under 35 U.S.C. 103(a) as being obvious over Pilavdzic et al (US 2003/0121908 A1) or Nishi et al (US 5,294,769), in view of Terry (GB 752,268) or Watanabe (JP 2-117089).

Pilavdzic shows a heating device with coil, core and yoke for induction heating and resistive heating a flowable material (see Figures 3-15 and col. 5, line 42 – col. 6, line 65). It teaches to adjust the ratio between inductive heat and resistive heat to control the heating of the material (col. 13, lines 14-26). Nishi also shows a heating device with both induction heating and direct heating (see all Figures and col. 12, line 1 – col. 46). It states that the ratio of the direct resistance heating and inductive heating can be determined to control the heating efficiency (col.13, line 8-14). Either Pilavdzic or Nishi shows every feature as claimed except for the specific detail of the harmonic contents of the power source. Terry clearly teaches the use of a power source generating a current with harmonics to an induction heating coil to increase efficiency (see page 1, lines 8-78). This is clearly shown by at least the prior art shown in Figures 3 and 4 of Watanabe '089 shows in Figures 1 and 2 that it is known in the art of induction heaters to use a power source providing current with harmonics for effective heating of the load by delivering the fundamental and harmonics power to load coils 18 and 23 respectively. When a load to be heated is located adjacent these two coils, the load would be heated with power from both the fundamental and harmonics. It would have been obvious to an ordinary skill in the art at the time of invention to modify Pilavdzic or Nishi to use a power supply providing pulses with harmonics so that load can be heated with both the fundamental and harmonic energy for better heating efficiency, in view of Terry or Watanabe '089.

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9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. At the outset, an appropriate action (such as a terminal disclaimer) needs to be taken in order to obviate the obviousness double patenting rejection. Furthermore, the argument is not found persuasive, as the claims are so broadly worded that claim 1 reads on any power source generating current pulses with harmonics contents. More importantly, the use of the harmonics for more efficient heating in an induction heating device is shown to be notoriously old and well known by Terry and Watanabe, to apply this idea on any known induction heaters would have been obvious to an ordinary artisan with the references before him/her.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Furthermore, this is *a petition to make special application*, accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a) and 708.02 VIII. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

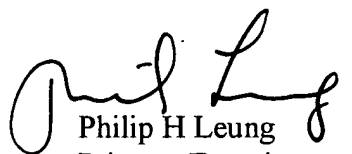
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip H Leung whose telephone number is (571) 272-4782.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (571) 472-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Philip H Leung  
Primary Examiner  
Art Unit 3742

P.Leung/pl  
6-27-2005